

Notice of Allowability

Application No.

10/008,435

Examiner

Matthew C. Sams

Applicant(s)

HENRIKSSON, MARKKU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/02/2005.
2. ☒ The allowed claim(s) is/are 12-24.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

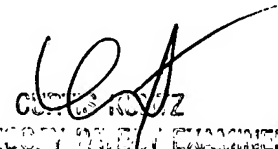
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


MATTHEW C. SAMS
EXAMINER
NOV 2 2005

DETAILED ACTION

Drawings

1. The drawings filed on 11/02/2005 have been accepted.

Allowable Subject Matter

2. Claims 12-24 are allowed.
3. The following is an examiner's statement of reasons for allowance:

The Applicant's invention is drawn to a inexpensive method for self-testing a radio transceiver in a test frequency band (i.e, where the transmitting branch filter and the reception branch filter partially overlap between the stop band and pass bands of a duplex filter), by arranging a test loop between the transmission branch and the reception branch consisting of a transmission coupler, a band pass filter or a switch, and a receiving coupler, the test loop having a lower attenuation than the duplex filter for the test frequency, wherein the transmitter local oscillator is adjusted to tune the transmitter's transmission frequency to the test frequency and the receiver local oscillator is adjusted to tune the receiver's reception frequency to the test frequency, transmitting the test signal and receiving the test signal.

Applicant's independent claims 12, 14, 19 and 23 each recite, *inter alia*, testing a radio transceiver in a system where the transmission signal pass band and the reception signal pass band are limited by a duplex filter whose frequency response curves partially overlap creating a testing frequency as can be seen in Fig. 4, arranging a test loop between the transmission branch and the reception branch, wherein the test loop includes a transmission coupling, a band pass filter, and a receiving coupling (Fig.

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7), the test loop having essentially less attenuation on the test frequency than the duplex filter, adjusting the transmitter's local oscillator to tune the transmitter's frequency away from the pass band to the test frequency, adjusting the receiver's local oscillator to tune the receiver's reception to the frequency of the test frequency, transmitting the test signal and receiving the test signal which has been attenuated through the test loop.

Applicant's independent claims 13, 15, 20, and 24 each recite, *inter alia*, testing a radio transceiver in a system where the transmission signal pass band and the reception signal pass band are limited by a duplex filter whose frequency response curves partially overlap creating a testing frequency as can be seen in Fig. 4, arranging a test loop between the transmission branch and the reception branch, wherein the test loop includes a transmission coupling, a switch, and a receiving coupling (Fig. 8), the test loop having essentially less attenuation on the test frequency than the duplex filter, adjusting the transmitter's local oscillator to tune the transmitter's frequency away from the pass band to the test frequency, adjusting the receiver's local oscillator to tune the receiver's reception to the frequency of the test frequency, transmitting the test signal and receiving the test signal which has been attenuated through the test loop.

The prior art teaches testing a radio transceiver by use of external signal generators (Schwartz US-5,883,882), testing a radio transceiver without a duplex filter or couplers (D'Amico et al. US-5,594,950), testing transceivers between base stations (Genell et al. (US-6,122,505) or testing a radio transceiver with a more complicated mixing of frequencies into intermediary frequencies for reception (Eriksson et al. US-

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5,521,904). Applicant's independent claims comprises a particular combination, which is neither taught nor suggested by the prior art.

Accordingly, Applicant's claims are allowed for these reasons and for the reasons recited by Applicant in Amendments filed on 1/27/2005 and 11/02/2005.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS
1/19/2006


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600